**Teacher: Elkis Felice and Rekha Thomas**

**Midterm Lesson: Ocean Pollution**

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| **Learning Objective** | Students will be able to describe the Great Pacific and North Atlantic garbage patch as ocean pollution and analyze it's cause and effects. |
| **Essential Questions** | * What is Ocean Pollution? * What are the Great Pacific and North Atlantic garbage patch? * What are the causes of ocean pollution? * What are the effects of ocean pollution in the environment and living organism? * Can ocean pollution affect you? How? |
| **Teacher**  **Standards** | Domain 3 Instruction  Component 3C Engaging Students in Learning |
| **Student**  **Standards** | **4.7. Human decisions and activities have had a profound impact on the physical and living environment.**  4.7.1. Students identify ways in which humans have changed their environment and the effects of those changes. 1.4. Scientific Inquiry: The central purpose of scientific inquiry is to develop explanations of natural phenomena in a continuing, creative process. 1.4.1. Students ask 'why' questions in attempts to seek greater understanding concerning objects and events they have observed and heard about. |
| **Materials and Resources** | Picture cards (1 set per student)  Smart board  Crayons  Markers  Construction paper  KWL chart one per student |
| **Vocabulary** | Atlantic ocean  Pacific Ocean  Garbage patch  Ocean gyre  Sewer system |
| **Procedure:** | **Formative Assessment**: Students will complete the first column of a **K**WL chart jotting down what they know about pollution.   * Students discuss their charts. If no one writes about water pollution, teacher will ask students can water be polluted? How?      * Students complete the second column of the K**W**L chart by generating questions they have about water pollution. * Teacher presents the following scenario to students: we are going on a trip, a picnic to Central Park. Every student will be provided with a school lunch. (Teacher provides students with picture cards and they will "pack up their lunch.") Students receive pictures of a tuna fish sandwich in a ziplock bag, small salad in a plastic cup, 2 small packets of salad dressing, a bottle of apple juice, a bag chocolate chip cookies, a straw, a fork, napkins, and a plastic bag to carry everything. The teacher explains that after eating their lunch some students left their garbage on the tables or under the chairs, others put their garbage in a garbage can that was overflowing and some left trash on the floor. Also some birds were trying to find something to eat in the trash can and moved some garbage around. Teacher asks students: What do you think will happen to that garbage? * Teacher invites students to find out by watching a video about the Great Pacific Garbage Patch **WatchKnowLearn.org** * After watching the video the students will discuss and jot down the cause and effects of ocean pollution. Teacher will post the following questions to aid discussion: How does ocean pollution affect marine life? Can ocean pollution affect you? How? * After students shared their ideas, teacher will remind them of their picnic lunch. When they ate their Tuna fish sandwich they were being affected by ocean pollution. Ocean pollution enters the food chain by the fish eating all the little pieces of plastic floating in the Pacific and Atlantic garbage patches. As predators eat their prey, the chemicals from the plastic gets absorbed and pass through the different organisms including us. * Teacher explains that we are part of the problem, but we can also be part of the solution. What can we do to prevent ocean pollution?   Teacher will tell students that they will rethink packing their lunch for the picnic. This time they should apply what they learned about ocean pollution to find an environmental friendly way to bring and clean up after their lunch. |
| **Summative**  **Assessment** | * Students will work in groups to decide what they would change about the way their lunch is packed. They will create a poster to represent their lunch and explain why they decided to make those changes.      * Students will complete the Learned part of the KW**L** chart to demonstrate what they learned about ocean pollution. |

**Assessment Rubric**

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| **1** | **2** | **3** | **4** |
| * Poster shows minimal revisions to original design and applies few concepts learned in lesson. * May lack evidence to support or explain decisions. * Demonstrate little understanding that humans can affect or help the environment. * KWL chart generates few questions and miss major concepts learned in lesson. | * Poster shows minimal revisions to original design and applies some concepts learned in lesson. * Use some evidence to support or explain decisions. * Demonstrate little understanding that humans can affect or help the environment. * KWL chart generates few questions and missed major concepts learned in lesson. | * Poster Shows revisions to original design applying concepts learned in lesson. * Uses evidence to support or explain decisions. * Demonstrates understanding that humans can negatively affect or help the environment. * KWL chart generates question, summarizes major concepts learned in lesson. | * Poster shows substantial revisions to original design applying concepts learned in lesson. * Uses evidence to support and explain decisions. * Demonstrates understanding that humans can negatively affect or help the environment. * Compares materials and justify why some are better than others. * KWL chart generates question and answer questions. Summarizes major concepts learned in lesson. |